

This listing of claims will replace all prior versions, and listings, of claims in the application:

AMENDMENTS TO THE CLAIMS

1. (Previously amended) A device for transport of molecules or energy across or into a biological barrier comprising;
 - a plurality of microneedles, each microneedle formed of a first material and a second material,
 - wherein the second material is dispersed throughout at least a portion of the first material or forms a portion of the microneedle.
2. (Original) The device of claim 1, wherein the first material is a polymer.
3. (Original) The device of claim 2, wherein the polymer is a biodegradable polymer.
4. (Original) The device of claim 3, wherein the polymer is selected from the group consisting of poly(lactide)s, poly(glycolide)s, poly(lactide-co-glycolide)s, polyanhydrides, polyorthoesters, polyetheresters, polycaprolactones, polyesteramides, poly(butyric acid)s, poly(valeric acid)s, polyhydroxyalkanoates, degradable polyurethanes, copolymers thereof, and blends thereof.
5. (Original) The device of claim 2, wherein the polymer is a non-biodegradable polymer.
6. (Original) The device of claim 1, wherein the first material, the second material, or both, comprise a metal.
7. (Original) The device of claim 1, wherein the first material, the second material, or both, comprise molecules to be released.
8. (Original) The device of claim 7, wherein the molecules to be released comprise a drug.
9. (Original) The device of claim 8, wherein the drug is a vaccine.

10. (Original) The device of claim 1, wherein the second material is dispersed homogeneously through the first material.

11. (Currently amended) [[The]] A device of claim 10, where for transport of molecules or energy across or into a biological barrier comprising:

a plurality of microneedles, each microneedle formed of a first material and a second material,

wherein the second material comprises rigid particles which are dispersed homogeneously throughout at least a portion of the first material or forms a portion of the microneedle and enhance the mechanical strength of the microneedles compared to microneedles formed without the second material.

12. (Original) The device of claim 1, wherein the second material is a salt or other leachable particle.

13. (Original) The device of claim 1, wherein the second material is heterogeneously combined with the first material.

14. (Original) The device of claim 13, wherein the second material is layered over or within the first material.

15. (Original) The device of claim 13, wherein the microneedles have a selected weak linkage formed of the second material, which dissolves, degrades, or breaks after insertion into the biological barrier.

16. (Cancelled)

17. (Cancelled)

18. (Previously amended) The device of claim 13, wherein the microneedles are formed of a first material and comprises an interior bore in which the second material is located.

19. (Original) The device of claim 18, wherein the second material comprises a drug or a polymer matrix in which drug molecules are dispersed.

20. (Original) The device of claim 1, wherein the second material is a sensor.

21. (Previously amended) The device of claim 20, wherein the sensor is in a bore or channel in the microneedles.

22. (Previously amended) The device of claim 1, further comprising a substrate from which a plurality of the microneedles extend.

23. (Previously amended) The device of claim 1, wherein the microneedles have lengths between about 10 and 500 microns.

24. (Previously amended) The device of claim 23, wherein the microneedles have widths between about 10 and 500 microns.

25. (Original) A device for transport of molecules or energy across or into a biological barrier comprising:

a substrate, and

a plurality of microneedles integral with or attached to and extending from the substrate,

wherein the microneedles have a beveled or tapered tip portion, a longitudinally extending exterior channel, or both.

26. (Original) The device of claim 25, wherein each microneedle is formed of a first material and a second material, the second material being dispersed throughout at least a portion of the first material or forming a portion of the microneedle.

27. (Previously amended) The device of claim 25 wherein the microneedles comprise a polymer or a metal.

28. (Previously amended) The device of claim 25, wherein the microneedles comprise molecules to be released.

29. (Previously amended) A method of delivering molecules across or into a biological barrier, the method comprising:

inserting the microneedles of the device of claim 7 into a biological barrier; and permitting the molecules to be released from the microneedles.

30. (Previously amended) A method of delivering molecules across or into a biological barrier, the method comprising:

inserting the microneedles of the device of claim 28 into a biological barrier; and permitting the molecules to be released from the microneedles.

31-54 (Cancelled)